

**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION**

RICHARD DENNIS, et al.,)	
)	
Plaintiffs,)	No. 20-cv-4090
)	
v.)	Judge Robert W. Gettleman
)	Magistrate Judge Keri L. Holleb Hotaling
THE ANDERSONS, INC., et al.,)	
)	
Defendants.)	

MEMORANDUM OPINION AND ORDER

In a motion pending before the district judge, Plaintiffs Richard Dennis, Port 22, LLC, and Michael Glass seek to proceed on behalf of a class of similarly situated wheat futures market participants on claims of market manipulation under the Commodity Exchange Act, violations of the Sherman Antitrust Act, and unjust enrichment and restitution/disgorgement under Illinois law, against Defendants, The Andersons, Inc. and Cargill, Inc. Currently before this Court are Plaintiffs' and Defendants' dueling motions to strike the opposing side's expert witness (Dkts. 143, 150), which were referred by the district judge to resolve before the district court rules upon Plaintiffs' class certification motion. (Dkt. 159.) For the reasons set forth below, Plaintiffs' Motion to Exclude the Testimony of Professor Justin McCrary (Dkt. 150) is denied, and Defendants' Motion to Exclude the testimony of Plaintiffs' Class Certification Expert Dr. Craig Pirrong (Dkt. 143) is granted in small part but otherwise denied.

BACKGROUND¹

Plaintiffs assert Commodity Exchange Act and Sherman Antitrust Act claims, alleging that The Andersons, Inc. (“TAI”) and Cargill Incorporated (“Cargill”), who were supposed competitors, operated multiple grain storage warehouses in Ohio and collaborated to manipulate prices of soft red winter wheat (“SRW wheat”) futures and options contracts on the Chicago Board of Trade (“CBOT”). The nutshell theory of Plaintiffs’ case is as follows: TAI sold SRW wheat to the major purchasers in October and November 2017 to suppress demand for physical SRW wheat and then, on November 29, 2017, registered for delivery two thousand certificates of CBOT December 2017 SRW wheat. (Dkt. 99, Third Amended Complaint ¶¶ 1-7.) This registration (falsely, Plaintiffs say) signaled that TAI would sell ten million bushels of physical SRW wheat to parties holding long positions in December 2017 SRW wheat futures and caused a marked price decrease in the December 2017 SRW wheat futures contract and widened the spread between the December 2017 and March 2018 SRW wheat futures contracts. (*Id.* ¶¶ 1, 4-12, 64-74, 76-90.) TAI and Cargill later repurchased some of the shipping certificates TAI had delivered at the decreased prices. (*Id.* ¶ 12.) Plaintiffs allegedly transacted in December 2017 and March 2018 SRW wheat futures and lost money because of the decreased prices caused by the scheme. (*See, e.g., id.* ¶¶ 23, 32, 33, 75.)

With certain exclusions unnecessary to enumerate here, Plaintiffs seek to certify a class of individuals or entities who purchased one of three positions in CBOT SRW wheat ((1) a long position in CBOT SRW wheat December 2017 or March 2018 futures contracts; (2) a long position in CBOT call options on CBOT SRW wheat March 2018 futures contracts; or (3) a short position

¹ Most of the parties’ filings relevant to the Court’s decision were filed under seal, but the Court cannot justify sealing this opinion. *See Baxter Int’l Inc. v. Abbott Labs.*, 297 F.3d 544, 546-47 (7th Cir. 2002); *Union Oil v. Leavell*, 220 F.3d 562, 567-68 (7th Cir. 2000). For consistency, where paragraph numbers are unavailable, the Court cites to the docketed page number stamped at the top of the parties’ filings, rather than any bottom-of-the-page page numbers.

in CBOT put options on CBOT SRW wheat March 2018 futures contracts)) and then liquidated the position through either an offsetting market transaction between November 30, 2017 and December 14, 2017 or a sale of a long position in a CBOT March 2018 futures contract that was initiated prior to December 14, 2017 but closed after that date. (Dkt. 148 at 5.)

In their class certification filings, Plaintiffs rely upon the initial and rebuttal reports of their expert, Dr. Craig Pirrong, to establish requirements for class certification, including typicality, and predominance of common issues over individual issues. Dr. Pirrong opines in relevant part that Defendants artificially depressed prices of the December 2017 and March 2018 SRW wheat futures through a market manipulation that injured Plaintiffs on a class-wide basis; Dr. Pirrong also provides a methodology for determining individual damages. Through the report of their expert, Professor Justin McCrary, Defendants purport to challenge the reliability of Dr. Pirrong's studies. Plaintiffs attack Professor McCrary's qualifications.²

LEGAL STANDARD

The Court “must make a conclusive ruling [pursuant to the recently amended Federal Rule of Evidence 702 and *Daubert v. Merrell Dow Pharmaceuticals Inc.*, 509 U.S. 579 (1993)] on any challenge to [an] expert's qualifications or submissions” before ruling on a class certification motion, whenever the “expert's report or testimony is ‘critical to class certification[.]’” *Messner v. Northshore Univ. HealthSys.*, 669 F.3d 802, 812 (7th Cir. 2012) (citing *Am. Honda Motor Co. v. Allen*, 600 F.3d 813, 815-16 (7th Cir. 2010)). “If the challenge is to an individual's qualifications, a court must make that determination ‘by comparing the area in which the witness has superior knowledge, skill, experience, or education with the subject matter of the witness's testimony.’” *Am. Honda Motor Co.*, 600 F.3d at 816 (citation omitted). “The court must also

² The experts' reports appear in various forms (sealed) in the record. The Court cites the following: (1) Dr. Pirrong's initial report (Dkt. 185); (2) Dr. Pirrong's rebuttal report (Dkt. 186); and the Expert Report of Professor McCrary's (Dkt. 149-39).

resolve any challenge to the reliability of information provided by an expert if that information is relevant to establishing any of the Rule 23 requirements for class certification.” *Id.* The Court must resolve the challenges to the experts’ qualifications and methodologies because the parties rely upon those experts’ opinions in relation to class certification.

“In performing its gatekeeper role under Rule 702 and *Daubert*, . . . the district court must evaluate: (1) the proffered expert’s qualifications; (2) the reliability of the expert’s methodology; and (3) the relevance of the expert’s testimony.” *Gopalratnam v. Hewlett-Packard Co.*, 877 F.3d 771, 779 (7th Cir. 2017); Fed. R. Civ. P. 702. In resolving challenges to an expert’s testimony or reports, the Court must consider the proposed expert’s training and experience, as well as the methodologies upon which the expert’s conclusions are based. *Smith v. Ford Motor Co.*, 215 F.3d 713, 718 (7th Cir. 2000). The Court has considerable discretion in addressing the reliability of expert testimony. *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 152 (1999).

The Court is the designated “gatekeeper” of expert testimony, and “the key to the gate is . . . the soundness and care with which the expert arrived at [the] opinion[.]” not “the ultimate correctness of the expert’s conclusions[.]” *Schultz v. Akzo Nobel Paints, LLC*, 721 F.3d 426, 431 (7th Cir. 2013). Exclusion of expert testimony “is the exception rather than the rule,” Federal Rule of Evidence 702 advisory committee note to the 2000 amendment, and “the traditional and appropriate means of attacking shaky but admissible evidence” are “[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof[.]” *Daubert*, 509 U.S. at 596.³

³ Neither party requests an evidentiary hearing, and, given the nature of the parties’ challenges (in particular, the lack of direct challenges to the methodologies themselves) the Court deems a hearing unnecessary. *See Kumho Tire*, 526 U.S. at 152 (explaining trial court has “discretionary authority [] to avoid unnecessary ‘reliability’ proceedings in ordinary cases where the reliability of an expert’s methods is properly taken for granted”).

DISCUSSION

I. Professor Justin McCrary

The Court begins with Plaintiffs’ challenge to Defendants’ proposed expert, Professor Justin McCrary, who is proffered in large part to critique the analysis of Dr. Craig Pirrong, Plaintiffs’ expert, because excluding Professor McCrary could affect the analysis of Dr. Pirrong’s submissions. Professor McCrary is an “economist with expertise in microeconomics, economic modeling, and statistical method,” who teaches at the Law School at Columbia University. (Dkt. 149-39 ¶ 1.) He has taught courses on economic theory econometric theory, antitrust, law and economics, and statistics and is a reviewer for leading peer-reviewed economics journals. (*Id.* ¶¶ 1, 6.) He served on the Board of Directors of the American Law and Economics Association and has published papers in prominent economic journals. (*Id.* ¶¶ 1-5.) Professor McCrary does not purport to be an expert in commodities futures trading or commodities manipulation, never having published regarding commodities markets or the theory of storage. (*See id.* ¶¶ 1-10.) He was retained to “review and evaluate the analyses and class-related opinions set forth in the Expert Report of Dr. [] Pirrong” and “opine on certain class certification opinions raised by Plaintiffs’ Third Amended Class Action Complaint.” (*Id.* ¶ 10.) Plaintiffs argue Professor McCrary: (1) is unqualified to give an opinion in this class action alleging market manipulation in wheat futures and options; (2) tenders opinions that are unreliable because they lack a scientific basis and he has never performed such quantitative work before; and (3) offers irrelevant opinions.

A. Professor McCrary’s Qualifications

Plaintiffs do not question Professor McCrary’s “expertise in microeconomics, economic modeling, and statistical methods” but challenge his expertise in “commodities futures trading or in commodities manipulation generally.” (Dkt. 151 at 9, 13-15.) They emphasize Professor McCrary’s published works have focused on United States equities and options markets, rather

than the futures market, wheat futures and options markets, or the SRW wheat market. (*Id.* at 14 & n.45.) Because securities and commodity futures and options are disparate, governed by different regulatory schemes and enforcement agencies, Plaintiffs insist Professor McCrary is unqualified to render an opinion in the realm of the commodity futures market (*id.* at 14), a conclusion they say is underscored by his professed unfamiliarity with “basic industry terminology” like “front month,” “spot month,” “strong stopper,” and “cash contract.” (*Id.* at 15.)

Defendants respond that Professor McCrary is proffered to critique Dr. Pirrong’s economic and statistical models and need not be an expert in commodities futures or agricultural crops to make such a critique. (Dkt. 163 at 9.) They note that McCrary’s “expert work, classroom teaching, and academic journal referee experience also spans commodity markets such as energy/electricity, proteins, and precious metals” (*id.* at 9 & n.5), and emphasize he is not offering opinions that turn on regulatory differences between the two marketplaces. (*Id.* at 11 n.6.) Further, they note Plaintiff made no effort to “explain why [the “industry terms” they say he should have known] are relevant” to “either expert’s opinions.” (*Id.* at 11.) The Court agrees.

As an initial matter, Plaintiffs cite just two cases to generally support their argument that Professor McCrary is unqualified to offer his critiques, and both are proffered to support their argument that his purported unfamiliarity “with basic industry terminology” warrants his exclusion. But neither of those cases, *Payne v. Wyeth Pharms., Inc.*, No. 2:08 Civ. 119, 2008 WL 5586824, at *4 (E.D. Va, Nov. 17, 2008), and *Berlyn, Inc. v. Gazette Newspapers, Inc.*, 214 F. Supp. 2d 530, 533 (D. Md. 2002), supports that proposition as to Professor McCrary. In *Payne*, although defendants raised the expert’s unfamiliarity with certain terminology, the court did not overtly address the argument or rely upon it in excluding the expert. 2008 WL 5585824, at *5. In *Berlyn*, the expert was proffered by the plaintiffs in their case in chief on antitrust claims of an alleged newspaper monopoly; although he considered himself an expert in the business side of the

newspaper industry, he was not an economist or attorney by trade, experience, or education, and had never performed antitrust or market analyses. 214 F. Supp. 2d at 534-38. The court found him unqualified to offer a market definition opinion, although he was qualified to offer pricing and lost profits opinions. *Id.* at 537-41. His unfamiliarity with any terminology was not the primary reason portions of his intended testimony were excluded. In any event, Professor McCrary's unfamiliarity with particular "industry" terms Plaintiffs list (that he apparently does not employ and Plaintiffs do not suggest he should have employed) has no apparent bearing on his qualifications to offer his opinions as to statistical errors in Dr. Pirrong's opinions.

Plaintiffs point to no case in which an expert like Professor McCrary was excluded on similar grounds, and the Court has located none. Plaintiffs' surface-level attack on Professor McCrary's background and education (Dkt. 151 at 13-15) is insufficient to demonstrate his lack of qualification, and the Court declines to exclude Professor McCrary's opinions, which Plaintiffs do not deny are rooted in statistics and economics, merely because he neither purports to be nor appears to be an expert in commodities futures trading or manipulation. *See In re Testosterone Replacement Therapy Prod. Liab. Litig. Coordinated Pretrial Proc.*, No. 14-cv-748, 2017 WL 1833173, at *6 (N.D. Ill. May 8, 2017) (noting "the inquiry into an expert's qualifications is not a generalized one" and rejecting arguments that expert in statistical and mathematical matters was unqualified due to lack of qualification as to "specific sub-fields of statistics—biostatistics and epidemiology—" because opinions he offered were "within the scope of his expertise as a statistician"). Plaintiffs identify no particular opinion Professor McCrary was unqualified to give, and the Court finds he is qualified to render the opinions he offers. (*See* Dkt. 149-39 ¶¶ 1-10, Appx. C.)

B. Reliability of Professor McCrary's Opinions

Plaintiffs argue Professor McCrary's opinions are unreliable, first, for lacking a scientific basis—because he opines Dr. Pirrong's analyses fail to account for confounding fundamental factors that Professor McCrary himself neither identifies nor analyzes to determine any potential impact. (Dkt. 151 at 16.) But, as Defendants retort, that was not Professor McCrary's task (Dkt. 163 at 12); instead, he was to analyze Dr. Pirrong's analysis and class-related opinions and other class-certification issues. (Dkt. 149-39 ¶ 10.) Neither *Daubert* nor Rule 702 required Professor McCrary to perform independent studies. *See Anderson v. Raymond Corp.*, 61 F.4th 505, 510 (7th Cir. 2023) (“[W]e [have] expressly rejected the notion that hands-on testing is an absolute prerequisite to the admission of expert testimony.”) (citation omitted); *Wyman v. Sunbeam Prods., Inc.*, No. 17-CV-4926-BLF, 2021 WL 1531000, at *3 (N.D. Cal. Apr. 19, 2021) (“Plaintiffs have not pointed to Court to any authority suggesting that Dr. Hamilton, a defense rebuttal expert, is obligated to conduct his own studies or tests.”) (citation omitted); *In re Zyprexa Prods. Liab. Litig.*, 489 F. Supp. 2d 230, 285 (E.D.N.Y. 2007) (“[D]efendants' experts have a less demanding task” because “they have no burden to produce models or methods of their own” and “need only attack those of plaintiffs' experts.”). And, although Plaintiffs label Professor McCrary's analysis thin and Professor McCrary a mere mouthpiece for the defense (Dkt. 151 at 16), the Court finds he sufficiently explained the underpinnings for his opinions, which flow from his review of relevant literature, his expertise, experience and knowledge. (Dkt. 149-39 at 40-124.)

Finally, Plaintiffs attack an isolated sentence of Professor McCrary's opinion regarding Dr. Pirrong's event study (Dkt. 151 at 17) and further attack his criticism of Dr. Pirrong's damages model because Professor McCrary had “never worked with” data types he used in performing his calculations. (*Id.* at 18.) The Court agrees with Defendants that the former argument takes Professor McCrary's statement out of context (*see* Dkt. 163 at 17), and the latter argument lacks

force because Plaintiffs identify no errors in Professor McCrary's calculations. (*Id.* at 17-18.) The Court declines to strike Professor McCrary's testimony as unreliable.

C. Relevance of Professor McCrary's Opinions

Plaintiffs finally briefly recycle most of the foregoing arguments, which the Court already has rejected, into an argument that Professor McCrary's opinions will not help the trier of fact. Again, the Court disagrees. Although Professor McCrary does regurgitate some record evidence (such as that SRW wheat would be aging between December 2017 and March 2018), he does not merely repeat evidence but adds his opinions to the evidence he recites, including that Dr. Pirrong should have accounted for the aging of the wheat and other factors. For these reasons and those set forth above in addressing Plaintiffs' prior arguments, the Court declines to strike Professor McCrary's opinions as irrelevant to the Court's class certification decision. As a rebuttal witness, Professor McCrary's opinions are relevant to understanding and analyzing Dr. Pirrong's opinions regarding class certification.

II. Dr. Craig Pirrong

At the class certification "stage, all that [Plaintiffs] [are] required to do [i]s show that the class's claims will rely on common evidence[.]" *Ploss v. Kraft Foods Group, Inc.*, 431 F. Supp. 3d 1003, 1021-22 (N.D. Ill. 2020), and damages are "capable of proof at trial through evidence that is common to the class." *Messner*, 669 F.3d at 818.

To meet these limited showings, Plaintiffs proffer their expert witness, Dr. Pirrong, an economist, who intends to testify that Defendants' alleged manipulation artificially deflated prices in the December 2017 and March 2018 SRW wheat futures markets and caused damages to the proposed class that are capable of calculation on a class-wide basis. In support, he presents: (1) an event study with regression analysis meant to measure the existence and amount of alleged price-artificiality in the December 2017 and March 2018 SRW futures and options contracts that is

attributable to Defendants’ conduct rather than chance or other market factors; and (2) a damages model that takes the output from the event study as an input to calculate a range of aggregate damages. Such models may meet Plaintiffs’ burdens at the class certification stage. *See Ploss*, 431 F.3d at 1018, 1022 (holding Plaintiffs could show class claims will rely on common evidence by “relying on Pirrong’s event study” and that damages calculations stemming from event studies could suffice to show proof of damages would be capable of proof at trial through evidence common to the class). Relying upon the proffered testimony of Professor McCrary, Defendants attack Dr. Pirrong’s models as flawed and several of his opinions as improper.⁴ The Court addresses Defendants’ arguments in turn.

A. Dr. Pirrong’s Event Study with Regression to Predict “But For” Wheat Prices

Dr. Pirrong first employs an event study with regression analysis intended to predict what prices would have been absent Defendants’ actions and statements. (Dkt. 185 ¶ 86.) In essence, “[Dr.] Pirrong compares ‘an outcome (called the dependent variable) and one or more factors (called independent variables) that may be related to that outcome.’” *Ploss v. Kraft Foods Group, Inc.*, 637 F. Supp. 3d 561, 572 (N.D. Ill. 2022) (quoting *Manpower, Inc. v. Ins. Co. of Penn.*, 732 F.3d 796, 808 (7th Cir. 2013)). “[E]xperts are given substantial ‘latitude’ in their selection of variables and data.” *Id.* (quoting *Manpower*, 732 F.3d at 808).

In the context of this case, Dr. Pirrong’s regression model uses other grain commodities traded on CBOT as control variables; he estimates the historical relationship among the SRW wheat futures prices and the control variables by using “a control period consist[ing] of data from

⁴ Defendants do not challenge Dr. Pirrong’s extensive qualifications, which are set out in Dkt. 185 at pages 4-7 and 101-15 and include approximately 30 years of concentrating professionally on competition and manipulation of prices with a focus on Chicago Mercantile Exchange wheat, soybean, and corn futures contracts; publishing a dozen peer-reviewed articles and a book on commodity futures manipulation and pricing; presenting to and consulting with federal agencies on manipulation; and testifying as an expert. *See also Ploss v. Kraft Foods Group, Inc.*, 637 F. Supp. 3d 561, 572 (N.D. Ill. 2022) (briefly addressing Dr. Pirrong’s qualifications, including “numerous reports about wheat and other commodity futures contracts”).

March 1 to November 29 for the CBOT wheat futures contract for each year from 2005 through 2017.” (Dkt. 185 ¶¶ 111-12.) According to Dr. Pirrong, the model computes what would have been, but for Defendants’ conduct, the prices for December 2017 and March 2018 SRW wheat futures for each trading day between November 30, 2017 and December 14, 2017. (*Id.* ¶¶ 86-87, 116.) He attributes the difference between his model’s output of estimated prices for December 2017 and March 2018 SRW wheat futures prices and the actual December 2017 and March 2018 SRW wheat futures prices to a “price artificiality” due to Defendant’s conduct. (*Id.* ¶¶ 106-22, 135-83.)

Defendants acknowledge that “[s]tatistical regression is an established methodology.” (Dkt. 144 at 4.) *See also Ploss*, 637 F. Supp. 3d at 572 (emphasizing prevalence of “[r]egression studies in general, and event studies in particular . . . in complex litigation”). They argue, though, that Dr. Pirrong “employed a ‘reliable methodology in an unreliable way’ because the ‘results’ are not ‘statistically significant’ under generally accepted statistical principles and lead to an unacceptably high rate of false positives (predicted price manipulation in years in which none is alleged). (Dkt. 144 at 5-11 (citation and quotation marks omitted).) This means, they insist, the study “cannot rule out” other potential causes of the SRW wheat futures price changes and has “dubious predictive value.” (*Id.* at 5-11.)

1. Statistical Significance

Defendants argue that Dr. Pirrong’s testimony should be excluded because, despite the prevalence of event studies in similar cases, this “event study is unreliable.” (Dkt. 144 at 5, 6, 13.) They reference comments to the 2023 amendment to Rule 702 that “critical questions of the sufficiency of an expert’s basis, and the application of the expert’s methodology” go to the admissibility of the challenged testimony or report. (Dkt. 144 at 4.)

Defendants hinge this argument on testing of the results⁵ of Dr. Pirrong’s analysis. (*Id.* at 4-9.) “Statisticians often measure the accuracy of a regression model’s estimates using . . . ‘significance testing’ or ‘null hypothesis testing.’” *In re High-Tech Emp. Antitrust Litig.*, No. 11-cv-02509-LHK, 2014 WL 1351040, at *8 (N.D. Cal. Apr. 4, 2014) (citing Federal Judicial Center, Reference Manual on Scientific Evidence 241 (3d ed. 2011) (“Ref. Manual”)). In other words, they “determine whether the results are statistically significant enough [] that they can reject the ‘null hypothesis’ of zero effect, which means that the independent variable being tested has *no* actual impact on the dependent variable and that whatever relationship is shown in the model occurred due to random chance.” *Id.* (emphasis in original) (citing Ref. Manual at 342, 354). “Statistical significance is determined by reference to a “*p*-value[,]” which ““represents the ‘probability that a coefficient of this magnitude or larger could have occurred by chance if the null hypothesis were true.’” *Id.* (citing Ref. Manual at 241.) “If the *p*-value is less than or equal to the selected significance level, the null can be rejected because the result is said to be ‘statistically significant at that level, which means that the probability that the observed association is the result of chance rather than a true association is less than the stated significance level.” *Id.* (citation omitted). “If the *p*-value is greater than the significance level, then the result is said to be statistically insignificant at that level, which means there is insufficient evidence at the selected significance level to reject the ‘null hypothesis’ of the observed association being a product of chance rather than true association.” *Id.* (citation omitted). “For example, a variable with a *p*-value greater than 0.05 means that the variable’s coefficient is not statistically significant at the 5%

⁵ The Court is mindful of the Seventh Circuit’s repeated caution that “[b]y now it should be clear that” the inquiry regarding whether an expert’s opinion should be excluded “focuses on the expert’s methodology, not whether we agree with his conclusion,” *Anderson v. Raymond Corp.*, 61 F.4th 505, 510-11 (7th Cir. 2023), which is in tension with Defendants’ arguments. That said, as Dr. Pirrong explains, the tests on the results mentioned here have utility in evaluating the event studies. (*See* Dkt. 185 ¶¶ 122-30, 136.) Moreover, as discussed below, courts have frequently examined such testing in analyzing the reliability of similar event studies; the Court accordingly will address Defendants’ argument despite its focus on the results of Dr. Pirrong’s study.

significance level and that one cannot reject the null hypothesis that the variable has no effect on the dependent variable.” *Id.*

As Defendants note, Dr. Pirrong himself describes p -values as “giv[ing] the probability of observing the residual,” which, here, is price artificiality, and concedes that “conventional thresholds” for statistical significance are five percent (0.05) and ten percent (0.1). (Dkt. 144 at 9.) Defendants highlight dates for which p -values were not statistically significant at the five percent level—four of eleven days within the December 2017 SRW wheat regression analysis, December 11 through December 14, 2017. (Dkt. 144 at 10.) And, they stress, for the March 2018 SRW wheat contracts, not one day in the eleven-day regression study yielded statistically significant results at the five or ten percent levels (Dkt. 144 at 10); in fact, the associated p -values were well above those levels, ranging from 0.26 to 0.43. (Dkt. 185 ¶ 135.) Defendants assert that p -values above 0.05 indicate unreliable regression study results and emphasize Dr. “Pirrong offers no thresholds for determining when his event study results should be considered statistically significant,” despite having agreed that one must “choose a threshold” to “establish statistical significance.” (Dkt. 144 at 10-12.)

Plaintiffs counter that Defendants’ overt challenge to Dr. Pirrong’s conclusions (rather than the methodology for the event studies) go to the weight they should be given, rather than the admissibility. (Dkt. 160 at 5-6.) Plaintiffs also note “Dr. Pirrong [in his rebuttal report] employed ‘bootstrapping’ and ‘GARCH’ analyses, which are well-recognized ways for calculating p -values,” used a shorter “control period of 2015 through 2017[,]” and returned p -values of between 0.000001 and 0.0653156. (Dkt. 160 at 7-8.) The GARCH analysis chart Plaintiffs included indicates statistically significant results at the five percent level on ten of eleven days and at the ten percent level on all eleven days of the December 2017 SRW wheat futures contracts. (Dkt. 160 at 8.) Defendants respond that Dr. Pirrong disclaims any intent to rely on event studies outside

those performed in his initial report for his opinions and, in any event, GARCH-method-generated p -values for the shorter control period for the March 2018 SRW wheat futures contracts ranged between .0586518 and 0.2569648, with only three of eleven days statistically significant at the ten percent level. (Dkt. 169 at 10-12.)

The Court agrees with Plaintiffs. First, Defendants seek to exclude all of Dr. Pirrong's results for his failure to overtly adopt a clear statistical significance threshold and most of his results because the p -values yielded from his event studies were above 0.05 for four of eleven days in the December 2017 study and all eleven days in the March 2018 study. (*See* Dkt. 144 at 13 (“[T]he results of Dr. Pirrong's event study results should be excluded[.]”).) The Court is unconvinced that *all* of his results should be excluded due to *some* p -values above 0.05, particularly where seven of eleven days (November 30 through December 8, 2017) within the December 2017 SRW wheat contracts regression analysis returned p -values with statistical significance at the five percent level. Nor does the Court find that Dr. Pirrong's non-articulation of a statistical significance threshold warrants blanket exclusion of his results here.

Second, even if Defendants sought to exclude just dates for which a p -value above 0.05 was returned, the Court under these circumstances declines to adopt a “hard and fast rule” requiring p -values of 0.05 or below, which in essence “evaluat[es] [statistical significance] as a binary question” where “statistical significance l[ies] at the 4.99% level but not at the 5.01% level.” *In re Chi. Bridge & Iron Co. N.V. Sec. Litig.*, No. 17 Civ. 1580 (LGS), 2020 WL 1329354, at *4 (S.D.N.Y. Mar. 23, 2020); *see also Kadas v. MCI Systemhouse Corp.*, 255 F.3d 359, 362 (7th Cir. 2001) (emphasizing, in employment discrimination context, “[t]he five percent test is arbitrary”). But “[l]itigation generally is not fussy about evidence[.]” and it is up to judges “to determine whether a particular significance level, in the context of a particular study in a particular case, is too low to make the study worth [] consideration.” *Kadas*, 255 F.3d at 362. Dr. Pirrong also

emphasizes that “eminent statisticians” have increasingly criticized the use of statistical significance cutoffs “because it is misleading and leads to erroneous conclusions” and that one should avoid “dichotomization as statistically significant or not.” (Dkt. 185 ¶ 124 (citation omitted).)

The Court, like many others presented with the question, declines to use statistical significance at the five percent level as a proxy for reliability, and thus admissibility, for the purposes of Rule 702 and *Daubert*. See, e.g., *In re Testosterone Replacement Therapy Prod. Liab. Litig.*, No 17-cv-3775, 2023 WL 7183216, at *3 (N.D. Ill. Nov. 1, 2023) (holding “better approach [i]s to avoid creating a bright-line rule and to instead examine the different bases for the experts’ opinions . . .”); *In re Chi. Bridge & Iron*, 2020 WL 1329354, at *4-5 (discussing cases and declining to require statistical significance at five percent level for admissibility in part because having a *p*-value does not prove price impact was absent); see also *In re EpiPen (Epinephrine Injection, USP) Mktg., Sales Pracs. & Antitrust Litig.*, No. 17-MD-2785-DDC-TJJ, 2020 WL 1164869, at *31 (D. Kan. Mar. 10, 2020) *Rooney v. EZCORP, Inc.*, 330 F.R.D. 439, 450 (W.D. Tex. 2019); *In re High-Tech Emp. Antitrust Litig.*, No. 11-CV-02509-LHK, 2014 WL 1351040, at *15 (N.D. Cal. Apr. 4, 2014).

This Court’s views are in line with those expressed in *In re Photochromic Lens Antitrust Litig.*, No. 8:10-cv-00984-T-27EA, 2014 WL 1338605, at *26-27 (M.D. Fla. Apr. 3, 2014), that an expert’s “use of a 50% measure of statistical significance” is not “by itself, [] sufficient justification” to find his methodology unreliable at the class certification level. And, despite Dr. Pirrong’s use, in other cases or contexts, of a 5% or 10% statistical significance threshold, he articulates his bases for submitting his analyses with *p*-values that exceed those commonly

accepted parameters here.⁶ (*See, e.g.*, Dkt. 185 ¶¶ 123, 128-34, 136-37, 154-55, 176-203; Dkt. 186 ¶ 64); *see In re Photochromic Lens Antitrust Litig.*, 2014 WL 1338605, at *27.

Considering the entire data set presented, Dr. Pirrong’s explanations, and the class definition Plaintiffs propose regarding transactions of December 2017 and March 2018 SRW wheat set forth above, Defendants’ arguments go to the weight, rather than the admissibility, of the regression study results. Dr. Pirrong’s event study results in the December 2017 and March 2018 SRW Wheat futures contracts are sufficiently reliable for consideration. Professor McCrary’s criticisms, which distill to an insistence that use of such data is outside the typical practice of statisticians, does not alter this determination. *See In re Photochromic Lens*, 2014 WL 1338605, at *26 (noting opposing expert failed to justify rejecting that approach beyond arguing it was “simply out of bounds of what economists do”). Here, as in prior cases, “Defendants’ concerns with particular facets of [Dr.] Pirrong’s methodology, and with the conclusions he reaches, are generally better addressed through cross-examination or presentation of contrary evidence” but “are not grounds for exclusion *ab initio*.” *Ploss*, 637 F. Supp. 3d at 573.

2. Rate of False Positives

Defendants next assert Dr. Pirrong’s study is undermined by the rate of “false positives,” or instances in which Dr. Pirrong’s model predicts price artificiality in years in which no manipulation is alleged. (Dkt. 144 at 13.) Defendants argue the higher the threshold for statistical significance one accepts as to the event study, the higher the rate of false positives the model returns. Accepting, for example, a 43% threshold for statistical significance (drawn from the highest *p*-value result Dr. Pirrong endorses, 0.43, applied across both the December 2017 and March 2018 studies) suggests price manipulation on 85% of the days for which Plaintiffs do not

⁶ The Court expresses no opinion on whether the outcome would be the same if the March 2018 event study were presented in isolation.

claim manipulation. (Dkt. 144 at 14.) Adopting a 5% statistical significance level (which would result in statistical significance for the results of just seven days in the December 2017 study and none in the March 2018 study) garners a 19.66% rate of false positives. Defendants argue that these rates of false positives show the event study does not reflect a reliable application of statistical methods to this case (Dkt. 144 at 14-15 (citing Fed. R. Evid. 702(d); *ATA Airlines, Inc. v. Fed. Exp. Corp.*, 665 F.3d 882, 896 (7th Cir. 2011))), and even Dr. Pirrong has acknowledged there may be a point at which there are “too many false positives.” (Dkt. 144 at 14 (citation omitted).)

Plaintiffs criticize Defendants’ use of 0.43 across both the December 2017 and March 2018 periods and respond that Dr. Pirrong observed no evidence of systemic false positives when testing his event study for every expiration period from 2001 through 2017. (Dkt. 160 at 14.) They observe Dr. Pirrong never adopted a “43% threshold for statistical significance” across both studies but instead argues that the March 2018 event study results “cannot be evaluated in isolation of the results for the December 2017 SRW wheat futures.” (Dkt. 160 at 14-15.)

Although the explanation regarding false positives is not robust, the Court nevertheless finds that Dr. Pirrong’s testimony is “closer to shaky than unreliable,” *Kleen Prods. LLC v. Int’l Paper*, No. 10-cv-5711, 2017 WL 2362567, at *6 (N.D. Ill. May 31, 2017). First, the Court has resolved the related argument regarding *p*-values, finding they do not render Dr. Pirrong’s testimony inadmissibly unreliable, in large part due to Dr. Pirrong’s explanation that “sound economic reasoning” indicates the impact of Defendants conduct would not have dispersed within days, despite the *p*-value results, and the spread was wider than anticipated for the December 2017 through March 2018 SRW wheat futures. (See Dkt. 185 ¶¶ 128-34.) Because Defendants’ false positives argument spins off from the *p*-values discussion and applies an across-the-board 43% threshold for statistical significance not adopted by Dr. Pirrong, the Court is disinclined to reach a

different result here. Second, unlike the expert analyses the Seventh Circuit found should have been excluded in *ATA Airlines, Inc.*, 665 F.3d at 889-96, on which Defendants rely, Defendants point to no flaws in Dr. Pirrong's inputs to his studies. Defendants may explore false positives or other questions as to Dr. Pirrong's studies through traditional evidentiary mechanisms. *See In re Term Commodities Cotton Futures Litig.*, No. 12-CV-5126 (ALC), 2020 WL 5849142, at *20-21 (S.D.N.Y. Sept. 30, 2020) (noting "[t]he Court's only duty is to determine whether Dr. Pirrong's testimony is grounded in sufficient facts and data, . . . based on reliable principles and methods, and [] he applied those principles and methods to this case," and finding plaintiffs "met this burden," leaving "[a]ny additional deficiencies or questions as to Dr. Pirrong's artificiality testimony [to] be further explored at trial") (citation omitted).

B. Dr. Pirrong's Damages Estimates

Dr. Pirrong proffers damages methodologies to calculate individual damages (Dkt. 185 ¶¶ 234-38) and estimate aggregate class-wide damages using linear programming (the LP model) (Dkt. 185 ¶¶ 239-69). According to Dr. Pirrong, "knowledge of each Class member's purchases and sales of the December 2017 . . . and March 2018 SRW Wheat Futures contracts, and options thereon . . . is not known or knowable at this stage of the litigation"; instead, public information allows one "to place bounds on aggregate damages." (*Id.* ¶¶ 239-40, 246-58.) At this stage, Plaintiffs' "burden is "only to demonstrate that the element . . . *is capable of proof at trial* through evidence that is common to the class rather than individual to its members." *Messner*, 669 F.3d at 818 (emphasis in original, quotation marks and citations omitted).

1. Dr. Pirrong's Use of "Permanent Artificiality" in March 2018 SRW Wheat Futures from December 14, 2017 through March 14, 2018

Defendants first attack Dr. Pirrong's opinion that the March 2018 SRW wheat futures contract had a permanent fixed artificial price depression of 1.2¢ per bushel from December 14, 2017 to March 14, 2018. (Dkt. 144 at 15; *see also* Dkt. 185 ¶ 247. Defendants assert this use of a

constant 1.2¢ residual is undermined by Dr. Pirrong’s choice to use a day-to-day approach for other transactions, as well as his opinion that publicly available information is immediately incorporated into the SRW futures marketplace. (Dkt. 144 at 15-16.)

Dr. Pirrong, though, opines that Defendants “distorted consumption by making excessive deliveries,” only a “fraction” of which they later repurchased, causing immediate consumption of wheat that “should have remained in storage for consumption later.” (Dkt. 185 ¶ 116.) The effects of their actions “persisted into the indefinite future beyond November 30, 2017,” thus “distort[ing] supply-demand fundamentals far into the future” and causing ongoing effects on prices. (*Id.* ¶¶ 116-17, 119, 122.) This price artificiality, Dr. Pirrong asserted, would remain constant after the December 2017 SRW wheat contract expired both because Defendants’ actions in the December contract could not affect prices after the expiration, and in an efficient futures market, the impacts of Defendants’ actions would be reflected in prices quickly and permanently.” (*Id.* ¶ 247.)

Dr. Pirrong’s explanation provides support for his choice. And, despite Defendants’ attack, his testimony is not “unsupported ipse dixit” because, rather than “pluck his conclusions out of thin air[,]” he reviewed the identified records, performed studies, and applied his extensive experience in futures markets to reach those conclusions. *See Artis v. Santos*, 95 F.4th 518, 526 (7th Cir. 2024) (holding that, where expert reached conclusions “after reviewing the record, consulting his significant insurance and risk-assessment experience, and applying basic underwriting principles[,]” he had “provided ample foundation for his opinions”). Defendants of course remain free to challenge Dr. Pirrong’s use of a permanent artificiality for the March 2018 SRW wheat contract.

2. Outputs of the Damages Model

Defendants challenge the LP Model outputs for the model’s reliance “on the daily artificiality residual (i.e., the daily artificiality estimate produced by the event study) to calculate

hundreds of thousands of hypothetical possible trade scenarios and conjures a supposed aggregate damage range for class members,” because it “cannot be applied to estimate the loss for any class member,” includes “computational errors that artificially inflate [the] damages estimate,” and does not “account[] for characteristics specific to many entities and individuals included in the group Pirrong purports to study,” like intraday traders and traders with offsets. (Dkt. 144 at 17-19.)

The Court already addressed Defendants’ arguments regarding Dr. Pirrong’s use of a constant residual; it also is unnecessary for Plaintiffs to have precise damages calculations at this stage in the case. *See Messner*, 669 F.3d at 818. Dr. Pirrong’s calculations, based upon his event studies, are sufficient to meet Plaintiff’s low burden here. *See Ploss*, 431 F. Supp. 3d at 1018 (holding in similar case that Plaintiffs had sufficiently shown that “proof of the damages caused by the scheme will either fail or succeed on a class-wide basis”).

Defendants’ argument that “the LP model has several computational errors that artificially inflate [the] damages estimate” does not suggest damages cannot be calculated on a class-wide basis, and the Court is not seeking to calculate actual damages at this stage. As Plaintiffs point out (Dkt. 160 at 17-19), Defendants’ related argument that Dr. Pirrong’s model did not account for the characteristics of certain traders, boils down to an argument that some members of the defined class “ultimately were not harmed” by Defendants conduct, *i.e.*, that their claims “will fail on the merits if and when damages are decided,” which is “a fact generally irrelevant to the district court’s decision on class certification.” *Ploss*, 431 F. Supp. 3d at 1019 (quotation marks and citations omitted). Because Defendants do not contend that such class members as a rule “could not have been harmed at all by the defendant’s conduct,” their argument does not suggest Plaintiffs’ cannot meet their class certification burden as to damages. Accordingly, the Court declines to exclude the relevant opinions on this ground.

C. State-of-Mind Opinions and Legal Conclusions by Dr. Pirrong

Defendants identify six statements in paragraphs 49, 57, 158, 159, 184 and 202, which they say exemplify improper opinions on Defendants' state of mind or legal conclusions that should be excluded.⁷ Dr. "Pirrong, an economist, lacks an analytically sound basis for ostensibly psychological conclusions" about Defendants' "knowledge or intentions." *Ploss*, 637 F. Supp. 3d at 574 (cleaned up). Legal conclusions are inadmissible, while state-of-mind testimony is admissible where helpful to the jury and its probative value is not outweighed by a risk of unfair prejudice. *Id.* at 574-75.

Defendants argue that Dr. Pirrong reaches legal conclusions in paragraphs 158 and 159 of his report. In paragraph 158, he states: "The December 2017 and March 2018 SRW Wheat Futures market was the target of Defendants' manipulative strategy. Moreover, this is the market in which [TAI] chose its output of liquidations of futures contracts." Defendants are correct that Dr. Pirrong's assertion of manipulation is an improper legal conclusion and should be stricken. *See In re Term Commodities Cotton Futures Litig.*, 2020 WL 5849142, at *23 (rejecting as legal conclusion expert testimony that Defendants "engaged in classical manipulative squeezing and cornering conduct" and that their "conduct was . . . manipulative"). Dr. Pirrong opines in paragraph 159 that "[t]he Toledo, Ohio physical market for SRW wheat is a relevant market because it was the delivery point where [TAI] delivered wheat." (Dkt. 185 ¶ 159.) This opinion is permissible. *See Ploss*, 637 F. Supp. 3d at 577-78 (declining to reject Dr. Pirrong's definition of market because "Defendants have not cited any authority requiring the exclusion of testimony where non-legal experts define non-legal terms in ways that differ from how those terms are defined by courts in other cases" and because "Defendants are free to dispute how Pirrong defines the relevant market

⁷ Defendants imply there may be other examples of opinions regarding Defendants' state of mind or legal conclusions, but they do not identify them. The Court declines any invitation to search for and exclude instances of such opinions Defendants have not identified.

through cross-examination, and . . . call witnesses who present [admissible] alternative or contrary views . . .”).

The admissibility of alleged state-of-mind assertions is more nuanced. Direct opinions regarding state of mind are improper, although an expert may testify regarding the consistency of a certain action with a particular state of mind. *Id.* at 575. Accordingly, Dr. Pirrong properly may testify regarding “conclusions [] drawn only in his capacity as an economist.” *Id.* This includes opining on potential economic motives of a party but not testimony of what a party knew; Dr. “Pirrong is ‘not more qualified than an ordinary juror’” to make the latter inferences. *Id.* at 575-76 (citations omitted). Defendants are correct that Dr. Pirrong’s statements in paragraphs 49 (that “[TAI] represented that it would sell 10 million bushels of wheat’ despite knowing that it had already sold sufficient physical wheat in the Toledo area to satiate the demand of major purchasers”), 184 (that certain “statements demonstrate . . . that Defendants were aware of these conditions”), and 202 (that certain “descriptions also demonstrate [Defendants’] awareness of the market conditions that are conducive to short manipulation and the exercise of monopsony power”) cross the line into improper state-of-mind testimony. *See id.* at 576 (noting that “it is difficult to disaggregate the plausibly admissible component of” such statements from “clearly inadmissible testimony about [Defendant’s] state of mind”). That said, Dr. Pirrong’s opinion that “one in the position of [Defendants] could have reasonably expected and anticipated that the market would react as it did” (Dkt. 185 ¶ 57) falls on the admissible side of the line. *See id.* (noting that opinion that party’s actions “lacked a legitimate economic motive” was admissible); *see also In re Term Commodities Cotton Futures Litig.*, 2020 WL 5849142, at *23 (permitting expert testimony explaining concepts or market manipulation or that particular “conduct ‘implies manipulation,’ to the extent he is testifying about the economic realities of Defendants’ conduct rather than the ultimate legal conclusion that Defendants violated the law”). Accordingly, the motion is granted

as to the challenged statements in paragraphs 49, 158, 184, and 202 and denied as to the challenged statements in paragraphs 57 and 159.

CONCLUSION

For the foregoing reasons, the Court denies Plaintiffs' motion to exclude the testimony of Professor Justin McCrary [Dkt. 150], and the Court grants in part and denies in part Defendants' motion to exclude the testimony of Dr. Craig Pirrong [Dkt. 143]. That motion [Dkt. 143] is granted only to the extent that Dr. Pirrong's legal conclusions and opinions as to state of mind identified in this memorandum opinion and order will be excluded; the motion is otherwise denied.

ENTERED: October 7, 2024



Hon. Keri L. Holleb Hotaling
United States Magistrate Judge